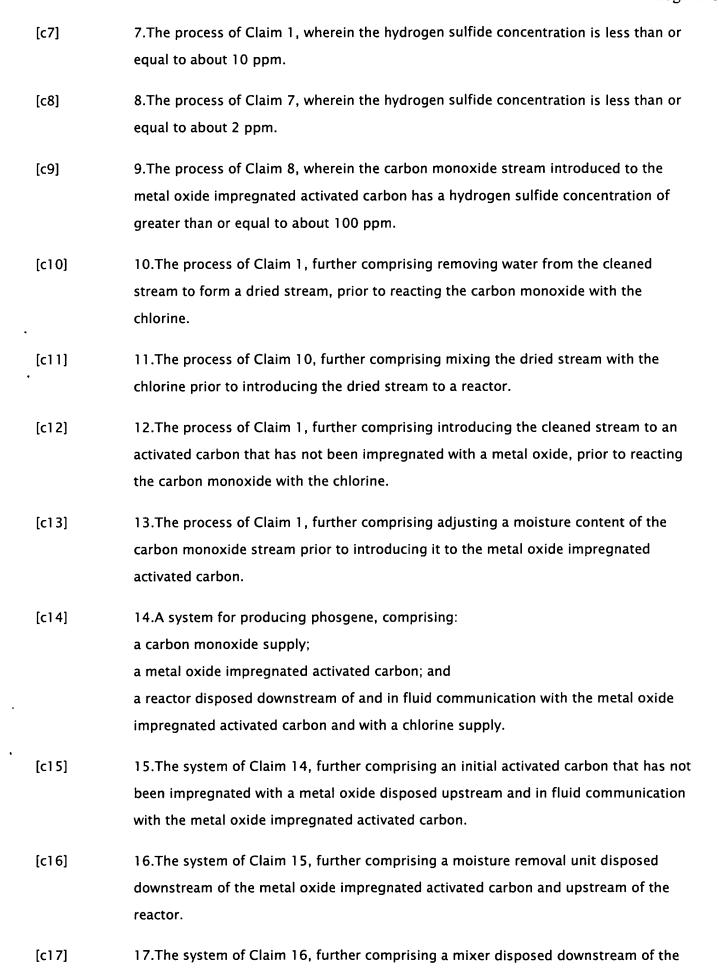
Claims

- [c1] 1.A process for producing phosgene, comprising:
 introducing a carbon monoxide stream to a metal oxide impregnated activated
 carbon;
 reducing a hydrogen sulfide concentration in the carbon monoxide stream to produce
 a cleaned stream, wherein a cleaned stream hydrogen sulfide concentration is less
 than or equal to about 20 ppm; and
 reacting carbon monoxide in the cleaned stream with chlorine to produce phosgene.
- [c2] 2.The process of Claim 1, further comprising:
 introducing the carbon monoxide stream to activated carbon that has not been
 impregnated with a metal oxide prior to introducing the carbon monoxide stream to
 the metal oxide impregnated activated carbon; and
 reducing a concentration of at least one of carbonyl sulfide and carbon disulfide in the
 carbon monoxide stream.
- regenerating the metal oxide impregnated activated carbon by:
 ceasing the introduction of the carbon monoxide stream to the metal oxide
 impregnated activated carbon;
 introducing an inert gas stream comprising oxygen to the metal oxide impregnated
 activated carbon, wherein at least one of the metal oxide impregnated activated
 carbon is heated to a temperature of greater than or equal to about 350°C or the inert
 gas stream is at a temperature of greater than or equal to about 350°C; and
 removing sulfur dioxide from the metal oxide impregnated activated carbon.
- [c4] 4.The process of Claim 3, wherein the oxygen is present in the inert gas stream in an amount of about 0.2 vol% to about 2 vol%, based upon a total volume of the inert gas stream.
- [c5] 5.The process of Claim 1, wherein the metal oxide is selected from the group consisting of copper oxide, lanthanum oxide, zinc titanate, iron oxides, calcium oxide, silica, aluminum oxide, and combinations comprising at least one of the foregoing metal oxides.
- [c6] 6.The process of Claim 5, wherein the metal oxide comprises copper oxide.



moisture removal unit and upstream of the reactor.

[c18] 18.A system for producing phosgene, comprising:

- a carbon monoxide supply;
- a first sulfur removal unit comprising an initial activated carbon that has not been impregnated with a metal oxide;
- a second sulfur removal unit comprising a metal oxide impregnated activated carbon downstream and in fluid communication with the first sulfur removal unit;
- a moisture removal unit disposed downstream of and in fluid communication with the second sulfur removal unit; and
- a reactor disposed downstream of and in fluid communication with a chlorine supply unit and the moisture removal unit.